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AUTHOR Gibson, Terry L.
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INSTITUTION Wisconsin Univ., Madison, Univ. Extension.
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ABSTRACT

A study was made to examine the relationship between a student's acceptance of the instructional objectives of a course and the amount of his learning as measured by tests on the objectives. Participants were not randomly selected but were enrolled in a graduate level course required for teacher certification. At the beginning of the first class period and at the last class session prior to the final examination, students were asked to rank their acceptance of each of 30 objectives by placing six objectives in each of five categories ranging from most acceptable to least acceptable. Test scores for each of the five groups of objectives were then individually ranked and summarized, using the Kendall Coefficient of Concordance "W", corrected for ties in ranks. The study concluded that there is not statistically significant (.05 level) relationship between the student ranking of the behavioral objectives as to their acceptance at the beginning or at the termination of the course and their consequent scores on a final examination or test of recall one month after the final examination. Thus, it is suggested that retention was the same for content related to the least as well as most acceptable objectives. (WCM)

Effect Upon Learning of Student Knowledge and Acceptance of Behavioral Objectives

Dr. Terry L. Gibson
University of Wisconsin-Extension
Madison, Wisconsin

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Purpose:

This study examines the relationship between the student's knowledge--acceptance of the instructional objectives of a course and the amount of his learning as measured by tests (final examination and test of recall) on the objectives.

Rationale:

Recent educational literature places great emphasis on the importance of student knowledge of the behavioral objectives of a course and on their acceptance of those objectives as being relevant to their life and work situation.[1] Tyler, in an article entitled "Some Persistent Questions on the Defining of Objectives," indicates that "When the objectives are clearly defined and understood by the student he can perceive what he is trying to learn."[2] Bloom also states, "He (the student) must accept and to some degree understand the goals if he is to exert the appropriate learning effort . . . . At the very least it is to be desired that the learner accepts the goals."[3]

Adult education literature places great significance on student involvement in the establishment of the objectives for an educational experience. Houle indicates,

> "The understanding and acceptance of educational objectives will usually be advanced if they are developed cooperatively. He who has a share in deciding what is to be done will understand it better and be more interested in doing it than he who must accept a goal developed by someone else."[4]

Thiede suggests that, "Learning is obviously more efficient if the learner understands and accepts the objectives."[5]

In a discussion of learning and its facilitation, Carl Rogers stresses the importance of making the learning relevant and thus acceptable to the individual student. A student is more apt to learn those things which he perceives as being involved in the maintenance or the enhancement of his life and work situation.[6]

Group instruction methods make it difficult to arrive at objectives that are considered relevant and acceptable by all members of the instructional group. Thus, in spite of the educator's attempts to use group involvement in the specification of objectives, the heterogenous nature of the group produces, in the majority of cases, a diversity of opinion as to the acceptability of the objectives. This difficulty should not be construed as a reason for complete instructor control of the course objectives. Nonetheless, the question can be raised as to the student's ability to determine what objectives should be covered in the course. As Theide indicates, "If the learner can fully construct the curriculum, he need not experience it; if he can fully specify all the learning goals, he has already achieved them."[7]

Thus, during the sequence of the course, the student's perception of the acceptability of the objectives may be altered by his contact with the content of the course. As a consequence, those objectives that were rejected by the student at the beginning of the course may come to have greater meaning to the student by the termination of the course.

Procedures:

Participants in this study were students enrolled in a graduate level course "Principles of Vocational Technical Education" offered by the Educational Policy Studies Department of the University of Wisconsin-Madison and the Center for Extension Program in Education of the University of Wisconsin-Extension. The course was presented via the Educational Telephone Network to the fifty-nine students at twelve different locations. The course is required for teacher certification, and the majority of the students were taking the course to satisfy the requirement.

At the beginning of the first class period and at the last class session prior to the final examination, the students were given a list of the thirty course objectives. They were then asked to rank their acceptance of each objective by placing six objectives in each of five categories ranging from most acceptable to least acceptable. The instructor indicated that all of the objectives would receive equal instructional time and emphasis. The data from the student ranking of the objectives was not made available to the instructor. A comparison of the individual student rankings at the beginning of the semester and the individual student rankings at the termination of the course indicates that all students changed their rankings during the course.

All of the objectives were specified at the knowledge level of the cognitive domain and given to the students in the following form:

> Identify (subject matter content) given a multiple choice final examination in the course.

The objectives were restricted to the knowledge level of the cognitive domain in an effort to equalize the level of difficulty for each objective. The restriction of the level of the objectives did not significantly alter

the nature of the objectives or the content of the course in comparison to prior semesters.

The final examination and the test of recall given one month later consisted of a ninety item multiple choice test made up of three questions on each of the behavioral objectives of the course. Using the examination scores, a matrix of the ranked objectives and their related test items was developed for each student. Test scores for each of the five groups of objectives (least acceptable-- most acceptable) were then individually ranked and summarized, using the Kendall Coefficient of Concordance "W" corrected for ties in ranks. A statistically significant Kendall "W" can be interpreted as meaning that the similarity between the students' ranking of the test scores is greater than a chance similarity, and the best estimate of the true ranking is determined by ranking the totals of the individual student's ranking for each category.

Results:

The findings of this study failed to reject the following null hypotheses:

1. There is no relationship between the student's ranking of objectives at the beginning of the course and the scores on the final examination.

2. There is no relationship between the student's ranking of objectives at the beginning of the course and the scores on a test of recall one month following the final examination.

3. There is no relationship between the student's ranking of the objectives at the termination of the course and the scores on the final examination.

4. There is no relationship between the student's ranking of the objectives at the termination of the course and the scores on a test of recall one month following the final examination.

Because hypotheses one, two, three, and four were not rejected the following contingent hypotheses were not tested:

5. There is no difference in the relationship between (a) final examination scores and ranking of objectives at the beginning of the course and (b) the final examination scores and the ranking at the termination of the course.

6. There is no difference in the relationship between (a) test of recall scores and the ranking of objectives at the beginning of the course and (b) the test of recall scores and the ranking at the termination of the course.

7. There is no difference in the relationship between (a) final examination scores and the ranking of objectives at the beginning of the course and (b) test of recall scores and ranking of objectives at the beginning of the course.

8. There is no difference in relationship between (a) final examination scores and ranking of objectives at the termination of the course and (b) test of recall scores and ranking of objectives at the termination of the course.

Conclusions:

Within the identified parameters of this study, there is no statistically significant (.05 level) relationship between the student ranking of the behavioral objectives of the course as to their acceptance at the beginning or at the termination of the course and their consequent scores on a final examination or test of recall one month after the final examination. On the final examination and test of recall, students did as well on questions pertaining to objectives they felt were least acceptable as they did on questions pertaining to objectives they felt were most acceptable.

Student rankings of objectives that were done at the beginning and the rankings that were done at the termination of the semester were

different in all cases. It can thus be suggested that student acceptance of the objectives changed during the course as they were exposed to the content of the objectives. The change in the rankings of the objectives may suggest a greater understanding of the objectives at the termination of the course. In spite of the change in rankings, the final ranking bore no relationship to the final examination scores or the test of recall scores.

The final examination, which was part of the student's grade in the course, and the test of recall, which was for research purposes only, were not different with respect to the relationship between the student rankings and their consequent scores on the tests. Thus it can be suggested that retention was the same for content related to the least acceptable and to the most acceptable objectives.

The participants in this study were not randomly selected and as such the study represents no more than a single group of students who enrolled in a course that is offered several times each year. It should be emphasized that the findings of this study are applicable only to the population studied and any attempts to generalize to dissimilar groups should be avoided.

Implications for Further Research and Study:

Casual readers of this study should be cautioned that the conclusions reached are only valid within the identified parameters of this study and any attempts to generalize beyond those parameters exceeds the date examined by this study. Thus the conclusion that all students will equally learn and retain knowledge that is both acceptable and unacceptable, is oversimplified and invalid. The conclusions reached by this study imply the following questions for further research and study:

1. What is the relative magnitude (acceptance) of the objectives with respect to the total life space of the individual?

In this study the level of student acceptance of the course objectives was measured by an instrument that forced the student to sort the objectives into five categories ranging from most acceptable to least acceptable. Given that the relative ranking of the objectives is valid, the instrument may nonetheless have measured the level of acceptance within a very narrow spectrum of the student's total range of acceptability. Thus, objectives that are ranked as most acceptable may, in terms of their relative magnitude, be indicative only of the most acceptable objectives in a total group of objectives that are all acceptable or unacceptable to the student. Thus, some means should be developed to adequately measure the level of acceptance of the course objectives as compared to other objectives the student might have with respect to his life and work situation.

2. Would student origination of the course objectives increase the level of acceptability of the objectives?

In this study the specific students in the course were not involved in the specification of objectives for the course. As a consequence, their only option was to "accept" all the course objectives developed by the instructor or drop the course and suffer the consequences of not having a course required for professional certification. Adult education literature places great significance on student involvement in the establishment of the objectives for an educational experience. Student origination of the course objectives may produce a greater commitment to the objectives because the students perceived the objectives as being meaningful and relevant to their life and work situation. Further

research should determine if student origination of the course objectives will increase the relative magnitude of acceptability.

3. Would student origination of the course objectives decrease the changes in ranking during the course?

In this study, the student ranking of the instructor determined objectives changed during the course. If student origination of the course objectives produces a greater commitment to the objectives, it can be suggested that the student will not alter his commitment to the objectives during the course. Further research should determine if a change in the ranking takes place with student originated objectives.

4. Did the amount of change in student rankings have a relationship to the scores on the final examination and test of recall?

Although not a hypothesis of this study, further investigation should determine if a relationship exists between changes in student rankings and scores on the final examination and test of recall. A student who is consistent in his rankings throughout the course may do better on a test because all of his activities have been focused on the same objectives.

5. Will scores on the final examination and test of recall show no relationship to a ranking of objectives at the comprehension, application, analysis, synthesis, and evaluation levels of the cognitive domain?

All objectives in this study were at the lowest level (knowledge) of the cognitive domain of the Taxonomy of Educational Objectives. The cognitive domain taxonomy places the behavioral aspects of each behavioral objective within a hierarchical framework. The categories are arranged along a continuum from simple to complex; and each category is assumed to include behavior more complex, abstract, or internalized than the

previous category. Further investigation should determine if a relationship exists between a ranking of higher order objectives and scores on a final examination and test of recall.

6. Will the individual characteristics and the learning style of each student affect the relationship between a ranking of the objectives and his scores on a test related to those objectives?

The small number of participants in this study were not randomly selected. Thus, a factor analysis of the individual characteristics and learning styles was not possible.

Individual characteristics and learning style may influence the use of the behavioral objectives by the students. Students with certain characteristics may use the list of objectives as an aid in structuring their instructional activities while other students may totally ignore the list of objectives. Further research should examine a large sample of students to determine if student characteristics and learning styles will affect the relationship between a ranking of the objectives and scores on a test related to those objectives.

7. What relationship exists between student acceptance of the instructor-developed objectives and the congruence between the student and the instructor?

Carl Rogers and others suggest that the most important variable in the instructional situation is the relationship between the instructor and the student. If that relationship is congruent, (open, trusting, and real), then learning-education will take place. If that relationship is not congruent, the best that can be achieved is the rote memorization of facts (knowledge) without education.

In this study, the emphasis has been on the learning and retention of facts (knowledge level of the cognitive domain) and as such the study

left unexamined several variables in the student-teacher transaction. Thus future studies should examine the congruence between the student and the teacher and the consequent acceptability of objectives that are developed through student-teacher transaction.

The relationship should also be examined between student acceptance of the objectives and the instructors indication that all of the course objectives are of equal importance. If a congruent relationship exists between the instructor and the student, the student may be willing to accept all of the instructor developed objectives.

8. Do students utilize the information that has been communicated by the behavioral objectives and do they feel that behavioral objectives have a meaningful role in the instructional situation?

If objectives are to play a meaningful role in the instructional situation, they must be utilized by the student to organize his own learning experiences and to evaluate his own progress. As a consequence, it becomes apparent that the student must accept and understand the utility of the instructional objectives. Thus behavioral objectives must be meaningful to the student in a conceptual sense as well as an operational sense with respect to the subject matter information communicated. This study and prior studies have not examined the student's actual use of the information communicated by the behavioral objectives in an instructor determined sequence of instructional activities. Thus within the behavioral objectives theoretical framework, this very important variable must be examined before it can be suggested that behavioral objectives have a role in instructional development.

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